Chapter 11—Designing for Riders With Disabilities

In the United States 54 million people have disabilities. That number will increase as the country's population ages. By 2030, over 110 million people will be older than 55, and many will develop functional disabilities. People who have disabilities recreate with families and friends, increasing the need to provide facilities and programs where everyone can participate. Accessibility requirements need to be considered when designing horse trails, trailheads, or campgrounds.

Numerous laws and guidelines govern this topic, and the acronyms—ABA, 504, ADA, ADA/ABAAG, and so forth—can be a bit daunting. It is beyond the scope of this guidebook to define and interpret accessibility requirements in detail, although a brief look at the issues may be helpful. In summary, with very few exceptions, all people are to be provided an equal opportunity to participate in programs that are offered, and new or renovated facilities are to be accessible. Refer to *Appendix F—Summary of Accessibility Legislation, Standards, and Guidelines* for an overview of accessibility laws, related guidelines, and standards. Sites, facilities, and programs are accessible or they are not—there is no middle ground. The only way to determine accessibility is to evaluate the site or facility to determine whether it complies with the accessibility standards in effect when it was constructed or renovated.

Site-Specific Accessibility

Determining which accessibility requirements apply to a situation may be confusing. For each site:

- ☆ Identify users
- ☆ Know the funding source
- ☆ Separate trail design from trailhead and campground design

Users

If the public has access, the project must meet accessibility requirements. The ownership or jurisdiction of the site, facilities, or activities helps determine the requirements that apply. The basic categories are:

- ☆ Federal agencies—the National Forest System, National Park Service, Bureau of Land Management, and so forth
- ☆ State, local, and private entities

If the recreation opportunity is solely for private or religious use, and the public will never have access—not even once a year at a fundraiser—and the opportunity takes place entirely on privately owned land, the trail or facility may not have to meet accessibility requirements. This guidebook doesn't address such situations.

Funding Sources

Certain laws and guidelines apply if funding is provided by government sources, whether as direct payment or as grants, or if the program is operating under a permit from a Federal agency. Projects paid for with community or State money are subject to the Americans with Disabilities Act (ADA). Those funded with Federal dollars or operating under a permit issued by a Federal agency fall under the Architectural Barriers Act (ABA) and Section 504 of the ADA. Both the ABA and ADA are laws. Accessibility guidelines were developed to guide construction of facilities that would comply with the laws. The current accessibility guidelines are the *Americans with Disabilities Act/ Architectural Barriers Act Accessibility Guidelines* (ADA/ABAAG).

The ADA/ABAAG focuses on facilities in highly developed areas such as cities, towns, and major tourist attractions. With the exception of boating facilities and fishing piers and platforms, the ADA/ ABAAG doesn't provide direction for construction or renovation of outdoor developed recreation areas or trails designed for hikers and pedestrians.

Because there were no accessibility guidelines for outdoor recreation areas, the Forest Service developed its own guidelines. The *Forest Service Outdoor Recreation Accessibility Guidelines* (FSORAG) and the *Forest Service Trail Accessibility*

Guidelines (FSTAG) are detailed accessibility guidelines that apply to developed recreation sites and hiker and pedestrian trails within the National Forest System. Both the FSORAG and the FSTAG are based on draft accessibility guidelines for outdoor recreation areas created by a committee of the Architectural and Transportation Barriers Compliance Board (Access Board). The Forest Service guidelines recognize the realities of the outdoors and allow exceptions for certain circumstances. While the FSORAG and FSTAG only have to be followed within National Forest System boundaries, the guidelines may prove useful for others who are planning and designing outdoor recreation projects.

Pathway and Trail Designs

Facilities at **trailheads** and **campgrounds**, including toilet buildings and parking areas, must be accessible. **Pathways within such areas** and those that lead to trailheads and interpretive sites also must be accessible. The FSORAG addresses the accessibility of camp and picnic units, picnic tables, grills, and so forth at Forest Service recreation sites. The FSORAG also covers pedestrian routes from camp units to toilet buildings and parking areas as well as the pathways or *outdoor recreation access routes* (ORARs) that connect these outdoor recreation facilities. Table 11–1 is a quick reference for applying accessibility standards and guidelines to facilities.

Table 11–1—Quick guide for applying accessibility standards and guidelines to facilities.

ABA Accessibility Standard	FSORAG (Apply only within National Forest System boundaries)	FSTAG (Apply only within National Forest System boundaries)
Buildings, boating, and fishing	**Recreation site features**	**Hiker/pedestrian trails**
All buildings, including: ☆ Administrative offices ☆ Residences ☆ Crew quarters ☆ Visitor centers ☆ Entrance stations ☆ Parking lots *And including components, such as:* ☆ Restrooms with and without water ☆ Workstations ☆ Doors ☆ Operating controls (door handles, faucet controls, thermostats, and so forth) *Boating and fishing facilities, including:* ☆ Boating facilities ☆ Docks ☆ Fishing piers and platforms	*New or reconstructed:* ☆ Picnic areas ☆ Fire rings ☆ Grills ☆ Wood stoves ☆ Benches ☆ Picnic tables ☆ Cooking surfaces ☆ Pedestal grills ☆ Fireplaces ☆ Beach access ☆ Outdoor recreation access routes ☆ Camping units (eating and cooking areas, parking spurs, platforms, tent pads) ☆ Campground utility connections ☆ Water hydrants and drinking fountains ☆ Outdoor rinsing showers ☆ Remote-area pit toilets ☆ Trash/recycling containers ☆ Viewing areas and overlooks ☆ Telescopes and periscopes ☆ Mobility device storage ☆ Warming huts	*New or altered trails that are:* ☆ Designed for hiker/pedestrian use *and* ☆ That connect either directly to a trailhead *or* ☆ Connect to a currently accessible trail

—*Accessibility Guidebook for Outdoor Recreation and Trails* (Zeller and others 2006).

Accessibility of **trails that are not in developed recreation sites** needs closer examination. Trails are designed to address the use for which the trail is designated, the trail's *designed use*. For example, trails designed for trail stock and riders have higher and wider clearance and softer tread surfaces than bicycle trails. While trails may be managed for multiple uses, each trail only has one designed use. The FSTAG, which addresses recreation trails, only applies to trails that meet all three of the following conditions:

- ☆ The trail has a designed use of hiker and pedestrian, in accordance with the Interagency Trail Data Standards, **and**
- ☆ The trail is new or being altered because of a change in the original trail purpose, **and**
- ☆ The trail connects either directly to a trailhead or to a currently accessible trail.

Federal accessibility legislation does not apply to trails exclusively designed for horse use.

Firm and Stable Surfaces

To be accessible, facilities must have a firm and stable surface. What sort of surface is firm and stable? In general, if the answer to both of the following questions is yes, the surface is probably firm and stable.

- ☆ Could a person ride a narrow-tired bicycle across the surface easily without making ruts? (The bicycle tires are similar to large rear wheels of a wheelchair.)
- ☆ Could a folding stroller with small, narrow plastic wheels containing a 3-year-old be pushed easily across the surface without making ruts? (The stroller's wheels are similar to the front wheels of a wheelchair.)

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While this method for determining firmness and stability is not scientifically accurate, it has proven to be effective.

In the late 1990s, the Access Board funded an Accessible Exterior Surfaces research project conducted by Beneficial Designs, Inc., of Minden, NV. Results of the study are available from the Access Board at *http://www.access-board.gov/research/Exterior%20Surfaces/exteriorsarticle.htm* or from Beneficial Designs at *http://www.beneficialdesigns.com/surfaces/surface.html*. The project developed a scientific method for determining firm and stable exterior surfaces and a rotational penetrometer tool that can be used to evaluate surfaces.

Universal Design

The best way to integrate accessibility is to use the principles of universal design. Universal design focuses on building for everyone while conforming to accessibility standards. Simply put, universal design means designing programs and facilities to include all people to the greatest extent possible, without separate or segregated access for people with disabilities. The classic example of universal design is constructing a single at-grade entrance to a structure rather than steps and accessible ramps.

A well-designed, universally accessible recreation facility does not stand out as being different from other sites. It also has more opportunities that are available for a broader range of public use.

The Forest Service's policy of universal design requires complete integration of accessibility within Forest Service facilities. Because the Forest Service has had an accessibility policy since the early 1990s, its facilities, programs, and associated elements often exceed the minimum requirements of Federal accessibility guidelines.

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Designing for Accessibility

Useful sources of information for designing accessible recreation facilities include:

- ☆ *Accessibility Guidebook for Outdoor Recreation and Trails* (Zeller and others 2006) describes the history of accessibility guidelines, discusses tools for planning accessible recreation opportunities, and provides practical information for applying the FSORAG and FSTAG to recreation features. The information is available at *http://www.fs.fed.us/recreation/programs/accessibility/htmlpubs/htm06232801* or *http://www.fs.fed.us/t-d/pubs/htmlpubs/htm06232801*. This Web site requires a username and password. (Username: t-d, Password: t-d)
- ☆ *ADA and ABA Accessibility Guidelines Homepage* provides links to the guidelines and related information. The information is available at *http://www.access-board.gov/ada-aba*.
- ☆ *Americans with Disabilities Act Accessibility Guidelines: Checklist for Buildings and Facilities* Web site helps individuals and entities apply the requirements of ADAAG. The information is available at *http://www.access-board.gov/adaag/checklist/a16.html*.
- ☆ AgrAbility Project promotes success in agriculture for individuals with disabilities and their families through onsite assistance and educational resources, including an online database of assistive technology. The information is available at *http://www.agrabilityproject.org/assistivetech*.
- ☆ National Center on Accessibility provides links to information for designing accessible trails, including the status of regulatory guidelines, research, publications, and other resources. The information is available at *National Center on Accessibility: http://ncaonline.org/trails*.
- ☆ *Universal Trail Assessment Process* (Beneficial Designs, Inc. 2001) identifies trail features desired by a specific user group. It focuses on width, surface, grade, slope, obstacles, and other related trail elements. The information is available at *http://www.beneficialdesigns.com/trails/utap.html*.
- ☆ USDA Forest Service *Recreation, Heritage and Wilderness Programs* Web site provides links to accessibility information, news, notices in the Federal Register, and related information about recreation and accessibility. The information is available at *http://www.fs.fed.us/recreation/programs/accessibility*.
- ☆ *Wilderness Access Decision Tool* (Lais and others 1995) is a resource for personnel in the National Wilderness Preservation System that helps managers make appropriate, objective, and consistent decisions that include people with disabilities. The information is available at *http://carhart.wilderness.net/docs/wild_access_decision_tool.pdf*.

Accessible Shared Trails

Trail stock can share accessible trails where the design accommodates the needs of the stock and the riders, even though differences may arise among user groups. Examples of differences that can be resolved include:

- ☆ Higher railings are required on equestrian bridges than on pedestrian bridges.
- ☆ Larger pulloff areas are required by trail stock and riders.
- ☆ High walls—those over 54 inches (1,372 millimeters) tall—may interfere with an animal's vision.
- ☆ Paved treads can pose problems for trail stock.

In such cases, careful examination of the issues can lead to workable accommodations. In the paved tread example above, an option is to provide a separate, adjacent tread with a horse-friendly surface. The solution always comes back to ensuring safety, abiding by the regulations, and doing so in a manner that includes all people. In addition to accessibility requirements, many recreation features are subject to engineering standards, building codes, and other regulations.

Accessible Equestrian Features

This guidebook only addresses accessible features that are specific to equestrian use. While many products on the market are advertised as being accessible, the buyer must know the specific requirements within the ADA/ABAAG. For example, a picnic table may be advertised as accessible, but not meet requirements. The buyer needs to check the table's dimensions to be sure. Don't rely on the manufacturer's claim of accessibility compliance. Some features that can meet accessibility and equestrian requirements include mounting blocks, mounting ramps, and an accessible handpump. For more information, consult *Chapter 7—Planning Recreation Sites* and *Chapter 10—Securing Horses and Mules.*

Horse Sense

Unlisted Features

What if a designer wants to provide an accessible constructed feature that is not addressed in the FSORAG? While not specifically related to equestrian use, lantern hangers are an interesting example that shows the principles involved. *The Accessibility Guidebook for Outdoor Recreation and Trails* (Zeller and others 2006) suggests designers go back to the basic building blocks of accessible design found in the ADA/ABAAG—the reach ranges, clear space, and maneuvering space that accommodate standard wheelchair dimensions. Using that information and the principles of universal design, designers would know that to be usable by the greatest number of campers of all ages, with and without disabilities, lantern hangers need to be placed within the reach range of someone in seated and standing positions. Solutions include using a simple device to raise the hanger or attaching two hangers at different levels. A firm and stable surface and sufficient clear space are needed around the lantern hanger to allow it to be approached from the front or side by someone using a wheelchair. The clear space should not block the main path of travel through the camp unit.

Therapeutic Riding Programs

Some riders with disabilities engage in trail riding as part of therapeutic programs. For safety, assistants may accompany these riders on foot. One horse and an individual walking on each side require a trail that is at least 8 feet (2.4 meters) wide, with an additional 3 feet (0.9 meter) of clearance on either side of the trail. All riders need at least 10 feet (3 meters) of overhead clearance, and 12 feet (3.6 meters) of clearance is preferred. Walkers must be able to navigate the trail fully between destination points. Trails with streams, narrow openings, or other physical barriers are not appropriate for riders requiring this additional on-the-ground assistance.

On trails crossing open areas, such as beaches or sparsely vegetated areas, two riders usually accompany the rider with disabilities (figure 11–1).

Figure 11–1—In open areas, assistants generally keep to the left front and right rear of a rider with disabilities.

One rider travels at the left front and one at the right rear, providing assistance if problems arise. To accommodate the extra stock, consider widening trails in open landscapes to at least 12 feet (3.6 meters). Areas that have dense vegetation bordering the tread allow better control if a problem occurs. The lead rider simply turns his horse or mule sideways on the trail and blocks the wayward animal. The existing vegetation restricts lateral movement.

On trails with moderate-to-heavy use that include riders with disabilities, increase the size of pulloff areas to 12 feet deep by 15 feet long (3.6 by 4.6 meters). These wide spots allow trail users to pass or reverse direction when necessary. The level of trail traffic dictates the appropriate number of pulloff areas. On curves, turns, and switchbacks, provide a wide tread and large-radius turns.

Resource Roundup

Assisting Riders With Disabilities

Recreation opportunities for people with disabilities are increasing rapidly as awareness of their value grows. Equestrian therapeutic organizations, programs, equipment, and training opportunities are available worldwide.

- ☆ The North American Riding for the Handicapped Association, Inc., is a national organization that fosters safe, professional, ethical, and therapeutic horse and mule activities for people with and without disabilities. For more information, visit the association's Web site at *http://www.narha.org.*
- ☆ The Adaptive Riding Institute has information regarding adaptive equestrian programs and riding equipment for people with disabilities. For more information, visit the institute's Web site at *http://www.open.org/~horses88.*
- ☆ Many communities have therapeutic riding facilities and organizations that can help identify the special needs of people with disabilities.